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TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

November 24, 2008

TO: Internal File

THRU: Daron Haddock, Coal Program Manager, Task Manager
Steve Christensen, Team Lead SCC

FROM: Peter Hess, Environmental Scientist III, Engineering Discipline Review PHH by SCS

SUBJECT: Wellington Dry-Coal Cleaning Facility Application, COVOL Engineered Fuels / Headwaters, Inc., Permit Application Package, C/007/0045, Task ID# 3075, (Previous TID 2899), Round 2 Review

SUMMARY:

The Division generated a list of deficiencies from the initial permit application package to the Permit Applicant on July 9, 2008. COVOL responded to the July 9, 2008 list of deficiencies on October 15, 2008.

This technical memo will address the adequacy of the COVOL responses as they relate to the R645-301-500's Engineering requirements of the State of Utah Coal Mining Rules.

TECHNICAL ANALYSIS

ENVIRONMENTAL RESOURCE MAPS

R645-301-521.131

SURFACE AND SUBSURFACE OWNERSHIP MAPS

Analysis:

The deficiency document authored by the Division dated July 9, 2008 contained the following: "The Permittee must include a map that shows the subsurface ownership for the permit and the adjacent areas." The Permit Applicant has submitted a modified Figure 5-2B Land Ownership (Subsurface) which shows the current subsurface ownership for the existing disturbed area / permit boundary for the COVOL Wellington dry coal cleaning facility. PLATE 5-2 shows the adjacent area topography from the permit boundary to a distance approximately 160 feet outside of the boundary fence. PLATE 5-2 is certified by a registered Utah professional engineer.

Figure 5-2B also depicts the subsurface ownership of the lands adjacent to the Wellington dry coal cleaning facility permit area.

Findings:

The Permit applicant's response addresses the regulatory requirements of this section.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

PERMIT AREA BOUNDARY MAPS

R645-301-521.190, R645-300-121.120;

Analysis:

The Division deficiency as aired in the July 9, 2008 deficiency document: "The Permittee must include a legal description of the permit area in chapter 1 of the MRP or reference that information in Chapter 1. The Permittee must also include a table in Chapter 1 that states the number of federal, state and fee acres. The Division often needs that information for reports." Also, "the Permittee must also show on Plate 5-1 or similar map a commonly used

coordinate system, such as the township, range and section system, the state plane coordinate system or the UTM system.

The Permittee's response received on October 15, 2008 is found in a revised Section 5.2.1.1, page 5-8, section **Landowner, Right-of-Entry and Public Interest.**

Appendix 1-3 contains the legal descriptions for the land parcels sold to COVOL in the warranty deeds contained in Appendix 1-3. Two deeds, comprising 30 fee acres, make up the surface ownership / permit area owned by COVOL. Chapter 5, page 5-8, section 5.2.1.1 section **Landowner, Right-of-Entry and Public Interest** states that there are no Federal or State lands within the permit area.

COVOL thus has legal right to operate on all lands within the 30 acres comprising the permit area / disturbed area.

This information, as described in Chapter 5, page 5-8, should also be included in Chapter 1, either as a table, or as a reference to section 5.2.1.1, Chapter 5, page 5-8.

PLATE 5-1 has been revised and shows the UTM grid.

Findings:

The requirements of this section have been met.

OPERATION PLAN

MAPS, PLANS AND CROSS SECTIONS OF MINING OPERATIONS

Mining Facilities Maps

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

R645-301-521.152; Existing Surface Configuration / Affected Area Maps

Analysis:

The Division's July 9, 2008 deficiency document stated the following: "The Permittee must show on the existing surface configuration map the topography 100 feet beyond the limits of the mining disturbance. Plate 5-1 does not show the existing topography 100 feet beyond the disturbed areas."

The Permittee's response of October 15, 2008 indicates that Plate 5-1 has been modified to correct this deficiency.

An analysis of Plate 5-1, General Site Map, Wellington Dry Coal Cleaning Facility, has determined that the surface configuration topography lines are depicted for a distance of 160 feet beyond the disturbed area / permit boundary for this facility. This deficiency has been addressed.

Findings:

The Permit Applicant has met the minimum regulatory requirements for this section of the R645 Coal Mining Rules.

R645-301-526.116: Conducting Coal Mining and Reclamation Operations within 100 of a Public Road

Analysis:

This deficiency was aired by the Division on July 9, 2008, and responded to in the October 15, 2008 response. "The Permittee must identify in the application where they will conduct mining and reclamation activities within 100 feet of the right-of-way of a public road except where mine access or haul roads join that right-of-way."

The Permittee's response indicates that PLATE 5-1 has been modified to address this requirement. A review of that Plate 5-1 indicates the area, and with the exception of a small radius of where the loop road turns south to meet the dump bin road, no mining activities are being performed or are anticipated in the acreage depicted within 100 feet of the County's Ridge Road. The 100 foot of the public road line of delineation is depicted on Figure 5-1. The current surface topography is depicted in this area; no mining activity is anticipated.

Findings:

The revised of PLATE 5-1 addresses this requirement of the R645 Coal Mining Rules.

R645-301-521.160; Identification of Roads on Surface Facilities Map

Analysis:

From the Division's July 9, 2008 deficiency document, "the Permittee must identify the roads on the surface facilities map, Plate 5-1 and give a brief description of each road including the roads that branch off from the main road."

The Permittee's response indicates that PLATE 5-1 and Section 5.2.7.2. Description of Transportation Facilities has been modified. A review of PLATE 5-1 shows that all of the roads which provide access to the various areas of the site are named. These include the

1) (site) access road, (off of the County's Ridge Road)
2) scale road
3) scale bypass road
4) loop road
5) dump bin road
6) loading silo road.

Based upon the Permittee's statement in section 5.2.7.2, no new surface conveyors are anticipated for construction. No new rail systems are anticipated. A typical road cross-section is described in Figure 5-3. Road drainage is described in Chapter 7. Speed limits (for the purpose of fugitive dust control) for the coal trucks entering and leaving the COVOL permit area is established in the State of Utah Air Quality Approval Order.

Appendix 5-1 contains a primary road certification for all roads constructed within the COVOL permit area. The certification is signed by Mr. Richard White, a professional engineer in the State of Utah.

Findings:

The Permittee's response to this deficiency meets the regulatory requirements of the R645 Coal Mining Rules.

Section 5.2.7.2 Description of Transportation Facilities

As noted above this section has been modified and references section **5.1.2.2 Plans and Engineering Designs, Primary Roads.** All roads within the permit / disturbed area are used to transport raw material to the site, or processed high quality or low quality coal from the site. All roads are therefore primary roads, as defined by R645-301-527.120.

Transportation Facilities, page 5-10 of the October 28, 2008 submittal gives a brief description of the designed roads. A typical road cross section, as depicted in Figure 5-3, was used to construct all of the site's primary roads. Road drainage controls are depicted on PLATE 5-1. All roads are surfaced with minus two-inch material, which has been compacted in place. Fugitive dust is controlled by applications of water, which are made on an as needed basis.

Findings:

The Permittee's October 15, 2008 response meets the regulatory requirements of this section of the R645 Coal Mining Rules.

R645-301-527.230, 527.240: Maintenance Program; Commitment to Repair Roads Following Catastrophic Event

Findings:

The Division deficiency document aired on July 9, 2008 stated the following: " The Permittee must include (a) maintenance plan for the roads for the life of mine." The Permittee's response states "Section 5.2.7.2 has been modified".

Chapter 5, page 5-14, (revised October 2008) indicates that front-end loaders or road graders are used to maintain a smooth road surface by filling pot holes and leveling bumps in the road surface. This is performed at least once per month, but more often if needed. Drainage ditches are redefined at least once per year. Paving of the roads within the disturbed area / permit area will be completed based on financial considerations. This revision contains a commitment to repair any of the roads within the permit area which may be damaged by a catastrophic flood or earthquake on an "as soon as possible basis". The Permittee has also committed to maintaining all roads to ensure safe operating conditions for all trucks and equipment. This meets the minimum regulatory requirement of the R645 Coal Mining Rules.

Findings:

The revision received October 28, 2008 meets the regulatory requirements of R645-301-527.230 and 527.240.

R645-301-528.320 Coal Mine Waste

Analysis:

The deficiency aired by the Division on July 9, 2008 relative to 301-528.320 is as follows: "The Utah Coal Rules define coal processing waste as earth materials which are separated from the product coal during cleaning, concentrating or the processing or preparation of coal. The term 'by-product stock', 'aggregate', 'alternative product' and 'debris' are not defined in the Utah Coal Rules and should not be used to describe coal that has been processed. The Permittee must accurately describe the types of coal or coal waste that will be produced during coal processing and where they will be stored. In Section 7.4.6.1 of the PAP, the Permit Applicant states "there is no coal mine waste that is permanently stored on site". That information is confusing. Any coal mine waste generated on site or shipped to the site or shipped from the site must either be disposed of on site in a refuse pile or returned to a permitted refuse pile and disposed of via Division approval."

The Permittee's response states, "the application has been modified to use wording consistent with the Utah Coal Rules".

Section **5.2.8.3 Spoil, Coal Processing Waste, Non-Coal Waste and Mine Development Waste** (See Chapter 5, page 5-15, **Coal Processing Waste**) states that "COVOL processes all material on site as coal, even if some of this material was classified by client facilities as coal processing waste. Hence, this material is considered a product (coal) and not a waste. The facility is operated so that all of the cleaned coal products are marketable "either as a high-quality coal or low-quality coal". This is accomplished by blending various grades of coal so that they satisfy the ash requirements of its customers. Coal is defined as a "combustible carbonaceous rock". If COVOL can produce a low grade product which is still capable of being able to combust, that material cannot be classified as coal processing waste. COVOL claims that they are capable of doing this. Thus, the plant will "not generate coal processing waste."

Since the Permittee states that all material coming from the air cyclones can be sold as high or low grade coal, none of the processed material can be classified as "coal processing waste". Therefore, there is no need to have the Permittee commit to ship the material exiting the cyclone bottom port back to the materials point of origin, or to a designed waste disposal site at the COVOL site.

By stating that all material is either high or low grade coal, **the Permittee commits to using all products for coal blending purposes only**. **This material may not be used to surface roadways, or for other uses for which rock aggregate would normally be used either inside the COVOL permit area, or outside of the COVOL permit area.**

Findings:

The Permittees revised application, as received on October 15, 2008 meets the regulatory requirements of the R645 Coal Mining Rules.

SURFACE FACILITIES MAP

R645-301-521.100: "The Permittee must show on PLATE 5-1 and other relevant maps the type of coal products that will be stored on site".

The Permittee's response states; "Coal storage piles are shown on Plate 5-1".

Analysis:

The Permittee's October 15, 2008 response includes the revised PLATE 5-1. One revision to this plate shows where processed and unprocessed coal stockpile volumes will

generally be stored on site. Three radial stackers are depicted, as are two working piles adjacent to the loading silo.

The deficiency aired above lacks some clarity as far as the original authors intent. It is not known if "type" was meant to refer to coal size (lump, nut, stoker) or coal quality type (high-grade or low-grade). The Permittee has stated that all processed coal is either low-grade coal or high-grade coal, and that no coal mine waste is generated at the site. Therefore, the blending of material to meet the customers various quality parameters is solely the responsibility of COVOL and of no concern to the Division.

The Division feels that the type of coal in one pile is identical to the type of coal in another.

Findings:

The Permittee's latest response meets the regulatory requirements of the R645 Coal Mining Rules.

R645-301-521.190; Amount of Coal in Each Storage Pile

On July 9, 2008 the Division stated the following deficiency: "The Permittee must indicate the amount of coal that will be stored on each coal storage area both in the text of the PAP as well as on all relevant maps. The Permittee must state in the PAP and on all relevant maps the amount of coal that will be stored on each coal storage area."

The Permittee's response states "Plate 5-1 has been modified".

Analysis:

R645-301-521.190 gives the Division the latitude it needs to request other information, which is felt to be necessary in the evaluation of mining, and reclamation plans. However, the Division does not feel a need to know the maximum amount of tonnage, which will be placed in storage during day-to-day operations at the COVOL facility. In general, stockpiles are depleted as quickly as they are built, in order to provide blendable product for shipment to various locales. The COVOL permit area consists of 30 acres of relatively level land, all of which could be used for coal storage (high quality or low quality) if necessary.

The Permittee's response of October 15, 2008 states the following; "It should be noted that the size and location of coal stockpiles shown on Plate 5-1 are correct based on the survey date of September 2008. However, these piles are dynamic in their configuration, changing in size based on processing requirements. Although the pile sizes may change from time to time, the piles will remain generally as located on Plate 5-1".

As all transportation into or from the COVOL facility is via truck, it is possible that some problems could arise which would affect this transportation mode, and the size of the storage piles. However, that possibility seems remote.

The revised Plate 5-1, as submitted by the permit applicant on October 15, 2008, does not enumerate on the average or maximum tonnages capable of being stored at each of the depicted stockpile topsoil locations. The Division does not feel that this information is important.

Findings:

The current information provided on Plate 5-1 is adequate to meet the minimum regulatory requirements of the R645 Coal Mining Rules.

R645-301-528.323; Fires in Carbonaceous Material

The Division's July 6, 2008 deficiency stated the following; "The Permittee must replace the term debris with one defined in the Utah Coal Rules when describing how to control burning and burned waste utilization. Note: Coal mine waste fires require special handling techniques. Fire extinguishers are not able to handle most coal fires".

The Permittee's response of October 15, 2008 states "terminology has been modified throughout the application. Reference to fire extinguishers has been removed".

Analysis:

Chapter 5, section 5.2.8.3 Coal Processing Waste, page 5-16 (Task ID # 3075 submittal) contains the revisions requested within the Division's deficiency.

Debris has been removed and replaced with the word "coal".

The reference to fire extinguishers (as mounted on mobile equipment) to fight carbonaceous material fires has been removed.

The Permittee states that all processed coal material is only on site within the permit area for a short period of time, which minimizes the potential for spontaneous combustion within the piles.

"Any coal fires that do occur will be handled as outlined in Section 5.1.3.8".

Section 5.1.3.8 (Chapter 5, page 5-5) states that there will not be any coal mine waste placed into storage within the COVOL permit area. In the unlikely event that a fire in carbonaceous material would occur within the COVOL permit area; the Permit Applicant is committed, upon notification of DOGM and MSHA, to implementing immediate remedial action

necessary to protect public health and safety, as well as the environment. Should these immediate remedial actions prove to be insufficient, the formulation of a long-term plan would be developed through cooperative efforts with MSHA and the Division.

Findings:

The October 15, 2008 revision meets the minimum regulatory requirements of the R645 Coal Mining Rules.

RECLAMATION PLAN

R645-301-553; Backfilling and Grading

The July 9, 2008 deficiency document authored within the Division states "The Permittee must give the Division a detailed backfilling and grading plan. The plan must include volumes of materials to be moved, haul distances and grades".

The Permittees response indicates, "this information is presented in Table 8-1 and Plate 5-2".

Analysis:

Table 8-1 (See Chapter 8, page 8-4) lists the volumes of concrete and steel associated with each of the structures located within the COVOL disturbed area, as well as soils volumes for the total amount of cut, fill and topsoil replacement for the most southern 10.4 acres of the permit area.

The demolition phase for reclamation of the upper two-thirds of the permit area (19.6 acres) is intended. All concrete and steel will be demolished and disposed. No discussion has been provided relative to where these materials will be deposited. The flat lying gradient of the COVOL permit area does not provide cut bank areas where on site disposal of the 1300 cubic yards of concrete material could be disposed. It appears that off-site disposal of this concrete volume is the only option. **The Permittee needs to discuss this in order to develop an acceptable figure for the bond amount for concrete disposal.**

Acreage of 30 acres was used to determine the amount of bond required ($165,000) by the DOGM in order for the Permit Applicant to continue operations. However, according to the current submittal, only the most southern 10.4 acres are to be re-topsoiled and revegetated. The current plan is to leave the top two-thirds of the COVOL permit area (approximately 20 acres) in a pre-COVOL industrial site condition. The Division has determined that the regrading, topsoiling and revegetation of the 20-acre area has been determined as unnecessary.

Table 8-1 notes that 1, 079 cubic yards of cut will be made as part of the reclamation, while 1,100 cubic yards of fill will occur. **Plate 5-2 RECLAMATION MAP does not depict where these cut and fill volumes will be performed. The Permittee has not provided cross-section projections to show how or where these regrading activities will occur.**

Topsoiling and revegetation activities will occur on the 9.7acres listed in Table 8-1. The Permittee must provide a seed mix approved by the Division for this area, which is based upon surrounding vegetation species.

The proposed reclamation plan (See Plate 5-2, RECLAMATION MAP) depicts a plan view of the 9.7 acres, which are to be regraded, topsoiled and revegetated. The proposed plan depicts leaving the east and west retention ponds in place, as well as the ditches reporting to them.

These impoundments do not meet the definition of "small depressions" (See R645-301-552.100) and therefore they must be backfilled / reclaimed. In accordance with the requirements of:

R645-301-553.120, "Eliminate all highwalls, spoil piles and depressions"; these detention ponds must be reclaimed.

Sediment control for the reclaimed 10-acre area can be established via surface roughening or "pocking". Sediment control for the 20 acres which is to be retained with a "pre-COVOL / industrial site" status will need to be depicted on a revised PLATE 5-2 and discussed in the text.

R645-301-542.600: The Permittee must provide additional information as to how the carbonaceous material that covers much of the disturbed area will be handled/disposed of during the reclamation phase of the project. This material must be graded off and disposed of in a refuse pile, prior to receiving a "post-mining" / "industrial-use" designation. Also, COVOL and the Division need to agree on the amount of refuse considered as a "worst case scenario". If more material is left at this site (after sale or return to the original owner) than the amount of refuse considered in a "worst case scenario", the excess must be shipped to another R645 permitted site for disposal (following Division approval).

From the Division's July 9, 2008 deficiency document, "the Permittee must state how they will deal with coal processing waste that was used as road surfacing material. Such materials cannot be left on the roads at reclamation."

The Division entered into an agreement with COVOL titled AGREEMENT TO CONCLUDE PERMIT AND TO CONTINUE OPERATIONS, which was signed on September 15, 2008. Attachment A, *Reclamation Bond states, "The Division will not require COVOL to bond for the removal of refuse that may be left on-site at the end of operations, or in the case of a bond forfeiture. The bond will instead reflect the amount necessary to properly grade, compact*

and cover such material onsite in a 'refuse pile,' as described in the R645 Rules. The amount of refuse considered in a 'worst case scenario' will be agreed to by both parties and in accordance with COVOL's business plans (i.e., the amount will not be assumed as the maximum the site can hold, rather the maximum COVOL plans to have on-site at any one time."

The Division understands that stockpiled material intended for dry processing will either be returned to the original owner or sold in the event that COVOL ceases operation. The permit applicant has surfaced much of the disturbed area (roads and operational pads) with carbonaceous material (shales and siltstone with minor amounts of coal). The carbonaceous material was not approved by the DOGM for use as road surfacing material (R645-301-534.320).

R645-301-536, et al, the Permittee, through correlation with the Division, must determine a volume of carbonaceous material, which will be allowed to remain within the COVOL permit area post-COVOL operations.

R645-301-542; Backfilling Maps, Plans, and Cross-sections

"The Permittee must give the Division detailed maps and cross-sections that show the final surface configuration, the facilities that will remain after final reclamation including all surface and subsurface manmade features".

The Permittee's response is as follows; "See Plate 5-2".

Analysis:

An analysis / comparison of Plates 5-2 with Plate 5-1 General Site Map (as submitted by the Permittee on October 15, 2008) reveals that the depicted final reclamation surface configuration contours are identical to the operational phase surface configuration contours. It therefore appears that no backfilling or grading will occur as part of the reclamation process even in the 10 acre parcel determined as being the area to be re-topsoiled and revegetated.

No cross-sections of the final reclamation contours have been provided for the 10-acre southern parcel, which is to be reclaimed. The very shallow gradient of north to south (<2% toward the south) would be difficult to show on cross-sections, unless done so with an exaggerated vertical scale. Even by doing this, justification for the reasoning would be difficult to quantify.

There are several items, which the Permittee needs to address in this reclamation plan.

1) In the 20 acre parcel, which is to remain in a pre-COVOL industrial site status, the Permittee must discuss the status of the "dump bin road" fill as to whether the fill volume will remain in place, or if the fill is to be returned to the approximate original (pre-

COVOL) contour. If this fill is to be removed, the location of placement must be discussed.

2) The Permittee must commit to either backfilling the subsurface dump bin reclaim tunnel or guarding off the area to prevent persons or wildlife from falling into the depression.
3) The fill used to establish the road gradient for the "alternate truck loadout hopper" must be discussed as to whether this access will remain post-COVOL, or graded to approximate original contour.
4) The fill volume for the loading silo road needs to be addressed.
5) The Permittee must commit to either backfilling all sub-surface locations or guarding them off to prevent accidental access (post-COVOL industrial site).

Findings:

The proposed reclamation plan raises questions that must be answered prior to receiving a recommendation for approval.

R645-301-830.130: Estimate of Reclamation Bond

"The Permittee must provide the Division with a detailed reclamation cost estimate for reclaiming the site. The Division needs this information to determine the amount of bond that should be posted".

The Permittee's October 15, 2008 response is as follows:

"The reclamation cost estimate will be included in Appendix 8-1 once it has been prepared by DOGM".

Analysis:

The Permittee has provided demolition volumes for concrete and steel, cut and fill volumes, topsoil volumes, and revegetation acreage.

The Permittee must also include disposal methods for these materials, haul distances and disposal fees. Steel can generally be disposed of at a scrap dealership with no disposal fee. Haul distances for steel disposal must be included.

The Permittee must provide data for earthwork calculations that must include cut and fill volumes, haul distances, grades, access roads, soil and waste characteristics, etc.

The Permittee must provide equipment types and productivity rates for this reclamation operation.

The Division will determine revegetation costs based upon the approved reclamation plan. This will include a reseeding cost estimate, which will be based upon the Division approved seed mix.

The Permittee has not provided a total reclamation cost for the site.

The Permittee's response is deficient and does not meet the requirements of the R645 Coal Mining Rules.

Findings:

The Permit Applicant has not provided adequate information to determine a reclamation bond amount.

RECOMMENDATION:

The Permit Application Package cannot receive a recommendation for approval until the Applicant addresses the following; in accordance with the requirements of:

R645-301-541.100; R645-301-553.120: the Permittee must permanently reclaim all affected areas. The Permittee must commit to reclaiming the east and west retention ponds that are located in the southern 9.7 acres. (PH)

R645-301-552.200: the Permit Applicant must submit a design for a permit impoundment which is designed to provide the sediment control for the 20 acres to be designated as the "post-COVOL" "post operations industrial land use". (PH)

R645-301-553.150: The Permit Applicant must discuss the status of the following fill areas post-reclamation, i.e., will they remain for the "post operations industrial land use", or will they be graded to blend into the "pre-COVOL" original contour of the surrounding area;

i. Dump bin road fill.
ii. Alternate truck loadout hopper fill
iii. Loading silo road fill.

PLATE 5-2 shows that these areas will remain as part of the "industrial use / post-COVOL post mining land use period". The Permit Applicant must provide reasonable justification to the Division to allow leaving these fill areas in place. (PH)

R645-301-553.150, R645-301-541.300, 541.400; The Permit Applicant must show that the fill areas and their associated bin / reclaim tunnels will support the approved post-mining land use.

If the Permit Applicant can adequately justify leaving the fill areas associated with the truck dumps and truck silo loading areas to the Division during the post-COVOL period, the Permittee must commit to either guarding or backfilling sub-surface bin areas / reclaim tunnel areas to prevent unauthorized access by animals or humans during idle periods when no industrial activity is occurring. (PH)

R645-301-542.200: The Permit Applicant must provide a plan for backfilling, grading, compacting and soil stabilization which includes maps and cross-sections that show the anticipated final surface configuration of the of the reclaimed area.

The current submittal shows a PLATE 5-2, RECLAMATION MAP.

The reclamation contours on PLATE 5-2 are identical to the surface contours of PLATE 5-1. Text on Page 5-26. section 5.5.3.6 states "no substantial regarding of the site is needed during reclamation". Page 5-23, section 5.4.2.3 Final Surface Configuration Maps and Cross-Sections states "the anticipated final surface configuration is shown on PLATE 5-2". There is some confusion here.

Table 8-1, Reclamation Bond Quantity Estimates, as shown in Chapter 8, page 8-4 indicates re-grading of the COVOL site will utilize 1,079 cubic yards of cut and 1,100 cubic yards of fill. PLATE 5-2 does not indicate where these cuts and fills will occur, or how they were calculated.

Plate 5-2 and the cross sections needed to depict the final surface configuration must show how the cut and fill volumes will be implemented into the final surface configuration. Also, the Permit Applicant must discuss the material volumes associated with the dump bin road fill, the alternate truck loadout hopper fill, and the loading silo road fill, and how these are to be handled. (PH)

R645-301-536, 536.100 through **536.420:**

- There has not been a location determined for this disposal facility within the permit area.
- There has not been a "worst case scenario" volume determination either determined or agreed to by both parties participating in this agreement, as required by the working agreement **(AGREEMENT TO CONCLUDE PERMIT AND TO CONTINUE OPERATIONS)** mentioned above.
- The Permittee has stated that there will not be any coal mine waste disposed of within this permit area, therefore, no design has been submitted.

R645-301-830.110: The Permit Applicant must provide a detailed cost estimate for the reclamation activities which are to be completed in the permit area, with supporting calculations

for the estimates. The Division will then review those estimates and determine the amount of bond required for this site. (PH)

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